Guidelines to the Regulatory Requirements for Dam Removal Projects in New Hampshire

2003 Revised 2007

New Hampshire Department of Environmental Services Water Division - Dam Bureau River Restoration Program

This project has been funded by a grant from the New Hampshire Office of Emergency Management to the New Hampshire Department of Environmental Services funded in part by the Federal Emergency Management Agency's Emergency Management Performance Grant Program.



State Dam Removal Plan Development Advisory Team

The development of this publication and review of its contents were advised by the State Dam Removal Plan Development Advisory Team. The makeup of the Advisory Team was deliberately intended to provide a *balanced* and *representative* diversity of interests related to selective dam removal in New Hampshire.

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Table of Contents

Section	Page
Introduction	3
State Laws and Rules Affecting Dam Removal Projects	4
Removing a Dam in New Hampshire: A Four-Step Process	5
Detailed Flow Chart of Process	6
Step One: Obtain Necessary Information	8
Step Two: Research, Plan and Design the Project	9
Key Technical Issues to Address Early	9
Sediment Management	9
Effects to Historical Resources	10
Effects on Infrastructure	12
Additional Items of Note	12
Step Three: Prepare Permit Application Package	14
Completing the Application Forms	14
Application Package Checklist	20
Step Four: Permit Review and Issuance	21
Appendix	
Contact Information for Selected State and Federal Agencies	24
N.H. Communities with Town-Wide Area Forms for Historic Resources	26

Links to Additional Resources

- Consultants: Dam Removal and River Restoration Issues
- Consultants: Architectural History
- Consultants: Archaeological History
- Data Collection: Researching Dams and Rivers
- Evaluation of Sediment Quality: DES Policy Subject
- DES Dam Bureau Fact Sheet DB-18: "The New Hampshire Initiative to Restore Rivers Through Selective Dam Removal"
- DES Rivers Management and Protection Program Fact Sheets
- DES Wetlands Bureau Fact Sheet WB-8: "Guidelines for the Standard Application Process for Wetlands Impacts"
- New Hampshire Communities with Designated Prime Wetlands
- U.S. Army Corps of Engineers, New Hampshire Statewide Programmatic General Permit
- Recommended Resources on River Restoration and Dam Removal
- Sample Abutter Notification Letter

Introduction

The New Hampshire Department of Environmental Services (DES) has developed these guidelines to provide dam owners, communities, regulatory agencies and other interested parties with information about the regulatory process of removing a dam.

Why Consider Dam Removal?

During the 18th, 19th and 20th centuries, New Hampshire relied heavily on the innovative use of waterpower (e.g., saw and grist mills, woolen mills, etc.), the ready availability of irrigation water, and a means to transport finished products to market via state waterways. Our rivers were heavily dammed during this period to serve societal needs. Modern manufacturing methods and practices have, in most cases, diminished our reliance on rivers. Nevertheless, many New Hampshire dams and their associated buildings, landscapes, and archaeological features may be considered historical and cultural resources.

According to the state's dam database there are more than 4,800 dams in New Hampshire. More than 1,600 of them are considered "inactive" because they no longer impound enough water to be regulated by the State. Most of these inactive dams have fallen into disrepair, been abandoned and/or are now ruins. Although they aren't considered subject to current state dam regulations, some of these structures still pose threats to the safety of people who swim, fish, paddle, or otherwise enjoy New Hampshire's rivers. Ice and floating debris can become trapped at these dams, raising water levels behind them during flood events, which could cause a sudden, uncontrolled release of water downstream. These conditions are not only dangerous to people, they can cause streambank erosion, downstream flooding and other impacts to public and private property. Also, dams don't have to be large to impact the environment. Even relatively small dams can prevent the movement of fish and other aquatic species, impair water quality and generally degrade riverine habitat.

There are more than 3,200 "active" dams in New Hampshire that are regulated by the DES Dam Bureau. The majority of these dams are more than 100 years old and they have far exceeded their design life expectancy. Many of these active dams are no longer serving their intended purpose and have fallen into disrepair. The deteriorating condition of many dams in New Hampshire poses public safety concerns, as well as long-term financial and legal burdens to their owners — that are often communities and taxpayers. These dams also impact rivers because they disrupt the natural flow of water, sediment and nutrients, fragment aquatic species from important habitats (e.g., spawning, nursery, feeding), and affect water quality (e.g., temperature, dissolved oxygen, turbidity). However, some dams may be significant features in New Hampshire's cultural and historical landscape, and may have value to local residents, historians, cultural geographers, and industrial archaeologists.

As an increasing number of dam owners and others seek to remove dams in New Hampshire, the DES Wetlands and Dam bureaus have collaborated to develop a permit application process for dam removal projects that addresses the needs of both bureaus, and streamlines the process for the applicant. This process is outlined in this document.

In 2001, the DES created the <u>Dam Removal and River Restoration Program</u>. The program provides assistance to dam owners, and helps coordinate the involvement of multiple interests throughout the dam removal decision-making, planning, regulatory and implementation processes. The goal of the program is to develop and implement an efficient and effective means of restoring rivers and eliminating public safety hazards through selective dam removal.

State Laws and Rules Affecting Dam Removal Projects

There are five sections of New Hampshire's Revised Statutes Annotated (RSA) that are particularly relevant to the regulation of dam removal.

- 1) RSA-482 (*Dams, Mills, and Flowage Act*) grants regulatory authority to the <u>DES Dam Bureau</u> for activities related to dams, such as dam construction, repair, removal, registration and safety inspections. Administrative rules promulgated under <u>RSA-482</u> are found in <u>Env-Wr 100-700</u> (<u>Dam Bureau Administrative Rules</u>). It is important to note that the DES Dam Bureau cannot order the removal of a dam if: 1) there is an identifiable owner of the dam, and 2) the dam meets state dam safety requirements.
- 2) RSA-482-A (*Dredge and Fill in Wetlands*) grants regulatory authority to the <u>DES Wetlands Bureau</u> for activities conducted within their jurisdiction (e.g., lakes, ponds, streams, wetlands, sand dunes, tidal buffer zone, etc.). Rules promulgated under these laws are found in <u>Env-Wt 100-700 (Wetlands Bureau Administrative Rules</u>). <u>RSA-482-A</u> and the rules promulgated under it require that projects be designed to avoid and minimize impacts to areas under the jurisdiction of the DES Wetlands Bureau.
- 3) RSA-483 (*Rivers Management and Protection Program*) was established to recognize and designate rivers to be protected for their outstanding natural and cultural resources. The program is administered by DES. After a river is designated to the program, a management plan is developed so that the outstanding qualities of the river may be protected for future generations. The plan is developed and implemented by a volunteer local river advisory committee that also coordinates activities affecting the river on a regional basis. The DES Rivers Management and Protection Program assists with the development and implementation of the management plan and enforces regulations concerning the quality and quantity of flow in protected river segments.
- 4) <u>RSA-483-B</u> (*Comprehensive Shoreland Protection Act*) established "protected shoreland" adjacent to public water bodies in New Hampshire. The protected shoreland is all land located within 250 feet of a "reference line" of public waters. Within the protected shoreland, certain activities are restricted or prohibited, and others require a permit from the DES. All activities that are regulated by the NHDES must comply with applicable local, state, and federal regulations. Rules promulgated under <u>RSA-483-B</u> are found in <u>Env-Ws 1400</u>.
- 5) <u>RSA-227-C</u> (*Historic Preservation*) reserves to the State of New Hampshire, acting through the Commissioner of the Department of Cultural Resources, ownership of all historical resources lying on the bottom of navigable waters in the state, great ponds, and three miles seaward from the New Hampshire shore in the territorial tidal waters of the state. The law directs the <u>Division of Historical Resources</u> to cooperate with federal, state, regional, and local government agencies in the planning and conduct of undertakings that affect historic properties and preservation objectives, and directs all other state agencies to cooperate with the Division in the identification and management of historic resources.

NOTE:

This publication describes the State of New Hampshire's regulatory process for removing a dam. **Local permits** may be necessary in some communities. These permits are not discussed in this publication.

The removal of **federally-regulated dams** involves additional regulatory processes (e.g., projects licensed by the Federal Energy Regulatory Commission). A description of these processes is beyond the scope of this publication. If you would like more information please contact the <u>DES River Restoration</u> Coordinator at (603) 271-3406.

Removing a Dam in New Hampshire: A Four-Step Process

This publication walks potential applicants through the four general steps that are required to receive the necessary state regulatory authorization to remove a dam in New Hampshire.

The following two pages graphically describe the process.

Detailed explanations of the process are provided in remainder of this document, and further expanded upon via provided web links to additional resources.

Step One: Obtain Necessary Information

Contact DES River Restoration Coordinator at (603) 271-3406 Obtain necessary permit application materials

Discuss potential funding sources

Discuss regulatory process

Step Two: Research, Plan and Design Project

Data collection

Identify key issues to address early (e.g., sediment, historical resources) Identify and consult with stakeholders

I Consult with the river's Local Advisory Committee, if applicable

Develop conceptual design plan

DATA COLLECTION

Each of the following categories should inform each other as the project is planned (See Data Collection: Researching Dams and Rivers for information on resources)

Baseline Research

Multiple site visits, photographs (old and new)
Tax maps, FEMA data, aerial photos
Utilities and nearby infrastructure
Dam ownership and flowage rights
Dam safety inspections
Current and historic upstream pollution sources

Hydrology and Hydraulics

Hydraulics (FEMA profiles and models, HEC-RAS model or alternative) Impacts to wells and groundwater levels Analysis of infrastructure upstream (stability) and downstream (capacity) Need to amend FEMA floodplain maps? Need to assess ice regime impacts?

Hydrology (gage data or hydrologic model)

Sediment Issues

Sediment probes to determine depth and physical characteristics

Need to perform sediment transport analysis?

Need to develop plan for sediment sampling and analysis?

Physical lab analysis

Chemical lab analysis

Site Survey

Property boundaries, utilities, infrastructure Preliminary channel survey, limits of impoundment

Access and easement issues, deed research Presence, location and type of wetlands

Historic Resources

Consult local historical society
Contact DES River Restoration Coordinator
Determine lead Federal agency
Need to hire an historical consultant?
Initiate contact with interested members of
the public and consult during project design

Fisheries and Wildlife

Presence, type, and location of rare species and/or habitats

Fish, wildlife and their habitats that will be impacted

Determine positive and negative impacts Need to perform post-dam removal site restoration?

Need to conduct pre- and post-dam removal monitoring?



Conceptual/Draft Design

Develop design recommendations (consultation with DES recommended)

Develop conceptual design plans

Draft design plan

Confirm access agreements

Preliminary cost estimates

Pursue funding opportunities

Design report

Consult with local Board of Selectmen and Conservation Commission

Consult with river's Local Advisory Committee, if applicable



Step Three: Permit Application Package Preparation

Prepare the following required forms and their supporting materials:

Standard Dredge and Fill Application, and

Attachment to the Standard Dredge and Fill Application for Dam Removal Projects

Obtain dam owner signature

Obtain Town Clerk signature

Submit permit application package to Town Clerk to be forwarded to DES Wetlands Bureau



Step Four: Permit Review and Issuance

DES Wetlands Bureau has 75 days to review permit application (for projects with less than one acre of impact).

A Memorandum of Agreement on mitigating effects to historic resources may be required

Public information meeting(s) or public hearing may be required

For most projects, the U.S. Army Corps of Engineers must also approve the project <u>after DES</u> Wetlands Bureau approval

Step One: Obtain Necessary Information

Estimated time to complete: Two weeks

Potential applicants are encouraged to begin the process by contacting the <u>DES River Restoration</u> Coordinator at (603) 271-3406 for information, including:

- Copies of the required forms for the permit application package.
- Information about potential funding opportunities to offset the dam owner's costs of removal.
- General information about dam removal and river restoration.
- Assistance in proceeding through the necessary regulatory process, which involves coordination with several state and federal agencies.

To be considered for receiving regulatory approval to remove a dam in New Hampshire, the DES Wetlands and Dam bureaus require the submittal of a permit application package that includes two completed forms and their supporting materials:

1) The Standard Dredge and Fill Application.

The applicant must provide this application and supporting materials in order for the Wetlands Bureau to consider granting a permit for a project in the surface waters of the State.

For copies of this form: Web: DES Wetlands Bureau

Phone: DES Wetlands Bureau at (603) 271-2174

2) The <u>Attachment to the Standard Dredge and Fill Application for Dam Removal Projects</u> (Attachment).

This form is specific to dam removal projects. It should be submitted at the same time that the *Standard Dredge and Fill Application* is submitted. It requests additional information that the Dam Bureau must review in order to grant approval for a dam removal project. The *Attachment* also includes a series of questions. Note that these are the same questions that are required to be answered on the *Standard Dredge and Fill Application*, but on the *Attachment*, they are asked in the context of a dam removal project. **Providing one set of complete answers to the questions listed on the** *Attachment* **will be sufficient for answering the questions on the** *Standard Dredge and Fill Application***. However, the applicant must still complete and submit the** *Standard Dredge and Fill Application* **form.**

For copies of this form: Web: <u>DES Dam Bureau</u>

Phone: DES Dam Bureau at (603) 271-3406

Permit and approvals that you must receive from the State

The complete submittal and successful review of the application package described above will result in the granting of two items that are required by the State to conduct a dam removal project:

- 1. Wetlands and Non-Site Specific Permit from the Wetlands Bureau, and
- 2. Written approval from the DES Dam Bureau.

NOTE: Local permits (e.g., disposal, zoning) may be required in certain communities. Applicants are encouraged to contact the Town or City Office in the community where the project will take place.

The remainder of this publication provides detailed information about researching, planning and designing a dam removal project (Step Two), preparation of permit application and supporting materials (Step Three) and the permit review process (Step Four).

Step Two: Research, Plan and Design the Project

Estimated time to complete: Months to years. Highly variable, site-specific.

The length of time needed to complete Step Two is largely dependent upon the scale and scope of the project, as well as the resources available for the project. Applicants of any dam removal project are encouraged to contact the <u>DES River Restoration Coordinator</u> at (603) 271-3406 as early in the planning process as possible for additional information about the many facets of these projects.

The flow chart included at the beginning of this document provides general guidelines to the process of researching, planning and designing a dam removal project in New Hampshire. It is **not** intended to be a comprehensive guide, as the details of each project are determined by the unique site and overall project context. Note also that this flow chart should not be interpreted as a rigidly chronological process. Parts of the project planning are usually directly or indirectly related to other parts. This lends itself to a meandering flow of information, rather than a rigid path to planning and designing the project.

A typical dam removal project requires data collection on a wide variety of issues. The multidisciplinary nature of dam removal naturally allows for the integration of information from a variety of fields of knowledge. This can enrich the applicant's understanding of the site conditions, leading to an effective design for the project. Due to the complexity of dam removal and river restoration many projects will require the expertise and knowledge of a professional engineer and/or environmental consultant. A growing number of consultants in the region have experience with dam removal and river restoration projects.

Key Technical Issues to Address Early

Any type of project that involves a diversity of issues, like dam removal, can experience unexpected delays due to technical challenges or procedural issues. Based upon projects in New Hampshire and elsewhere DES recommends that applicants address three key issues as early as possible to avoid delays in timelines for project completion.

1. Sediment Management

One of the primary roles of rivers is to transport sediment, nutrients and woody debris. Dams and their impoundments can block these materials from moving downstream, causing them to accumulate behind the dam. Accumulated sediment behind a dam can be a major concern with a proposed dam removal. The quality and quantity of the sediment must be evaluated early in the process in order to properly determine the impacts of the proposed removal project. Because these materials may move downstream due to a dam removal, informed consideration of sediment quality and sediment quantity is a significant component of properly evaluating the impacts of a proposed dam removal project.

Quality — The Sediment Impacts section of the <u>Attachment to the Dredge and Fill</u> application form asks applicants to provide information about known current and/or historic sources of potential pollution from points upstream. These sources could be wastewater dischargers, existing and former manufacturing facilities, former tanneries, hazardous waste sites, etc. DES can assist applicants in researching this question, therefore it is recommended that applicants contact the <u>DES River Restoration Coordinator</u> on sediment issues. This early coordination can reduce or eliminate delays in a project or a permit application review.

After a variety of factors are taken into consideration (e.g., dam location and condition, pollution source type and location, sediment load characteristics of river) DES may determine that chemical analysis of the river sediment is necessary, and the agency will work with the applicant to determine the range of constituents that must be tested for, in addition to the number of samples required, their location and

sampling method. DES has an official policy on the <u>Evaluation of Sediment Quality</u>. This policy clearly links <u>New Hampshire</u>'s <u>Surface Water Quality Standards</u> (<u>Env-Ws 1700</u>) to freshwater, estuarine, and marine sediments because the chemical, physical, and biological qualities of the overlying water are intimately related to the chemical, physical, and biological qualities of the sediment. In certain cases, this can eventually affect aquatic life, wildlife, and even humans.

This policy outlines the sediment quality triad approach, a methodology that integrates both chemical and biological data in order to assess ecological resource risk due to sediment quality. If a project is required to conduct chemical analyses of river sediment, the applicant must collect samples in accordance with standard protocols described in the policy and have the samples analyzed by a New Hampshire-certified laboratory that will compare the samples to published, peer-reviewed screening level contaminant lists. Further sampling and analysis may be required if the initial analysis warrants further review.

Quantity -- The amount of sediment that has accumulated behind a dam is another issue. The quantity of sediment likely to be transported downstream can be a concern even if the sediment is not contaminated because of its potential effects to infrastructure, public and private property, fish and aquatic life and wildlife. To address these concerns, applicants are asked to describe the extent of sediment that has accumulated above the dam by providing information on 1) the estimated volume of impounded sediment that might move downstream due to the dam's removal, and 2) the physical characteristics of the impounded sediment.

Certain projects, due to their scale and scope, may sufficiently answer these questions with qualitative data, such as a description of the location of sediment that is impounded behind the dam (e.g., Is it directly behind the dam? What is the elevation behind the dam in comparison to the streambed downstream of the dam? Is there visible impounded sediment near the streambank? Is it primarily on one or both sides of the river?). A qualitative description of the type of impounded sediment may also be sufficient for some projects (e.g., Is it fine-grained and muddy or silty? Sandy? Gravelly? Are there lots of cobbles, boulders or ledge and bedrock?). Other projects will require conducting a hydraulic water surface computer model and sediment transport analysis utilizing model, such as HEC-RAS. These models are commonly used by consultants working on dam-related issues and can help predict the amount of sediment that could be scoured if the dam is removed. If a chemical analysis of the sediment will be conducted, a physical analysis of the grain size distribution of the samples should also be done. More detailed sediment transport models may also be used on particularly complex dam removal projects.

2. Historical Resources

Projects that require a federal permit or that are receiving federal funding must coordinate with the <u>State Historic Preservation Office</u> (SHPO), in accordance with the <u>National Historic Preservation Act</u>. This coordination is necessary to determine whether any properties that could be affected by the dam removal project are eligible for listing to the National Register of Historic Places. It should be noted that meeting the requirements of the <u>National Historic Preservation Act</u> is a federal requirement, not a state requirement.

Compliance with the *National Historic Preservation Act* is required of most dam removal projects because the U.S. Army Corps of Engineers (Army Corps) requires permits for activities that involve placing fill in waters of the United States¹. Including evidence of this required coordination in the permit

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¹ The DES Wetlands Bureau has a coordinated permitting process with the Army Corps through the <u>New Hampshire State Programmatic General Permit</u>. The project's degree of impact determines the Army Corps' approval process: Minimum Impact = automatic approval from the Army Corps; Minor Impact = no work shall be done without Army Corps authorization unless 30 days have passed after DES Wetlands Bureau approval; Major Impact = no work shall be until the applicant receives notice from the Army Corps.

application materials to DES may help prevent delays in obtaining the required Army Corps approval for the project.

Projects that have neglected to address this step of the process have experienced delays of several months to more than a year. New Hampshire state laws may also require coordination with the State Historic Preservation Office (SHPO). [see RSA 227-C (Historic Preservation)]

As early as possible during the project planning, applicants should contact the local historical society or town historian, if one exists, to gather preliminary historical information about the dam, its adjoining properties and/or nearby resources. Many New Hampshire towns have completed town-wide area forms on their historical resources. These documents could provide valuable information about the history of the site.

The applicant should then contact the <u>DES River Restoration Coordinator</u> at (603) 271-3406 or DES, Water Division-Dam Bureau, 6 Hazen Drive, PO Box 95, Concord, NH 03302-0095 with the following information:

- Name(s), address(es) and telephone number(s) of the project's principal contact person.
- Exact location of the proposed dam removal project (e.g., State Dam Identification Number, latitude-longitude coordinates, USGS map with project area clearly identified, etc.)
- Any known history of the dam and surrounding site
- Any known nearby historic resources

Because this component of the dam removal process may take six (6) months to one year, it is important to initiate historic resources review as early as possible.

The DES River Restoration Coordinator will help identify a lead federal agency for the project, as required by the *National Historic Preservation Act*. The project's lead federal agency will be determined by whether any federal agencies are providing funding or technical assistance in the project (e.g., U.S. Fish and Wildlife Service, National Resource Conservation Service, National Marine Fisheries Service), or if the federal involvement is only through the permitting process (i.e., Army Corps of Engineers 404 permit). Once a lead federal agency is determined, the preliminary historical resources information will be provided to the SHPO. The applicant will be copied on this letter when it is sent to the SHPO.

NOTE: The applicant should retain this cover letter in order to include a copy of the letter in their permit application package to DES Wetlands Bureau. Alternatively, the applicant can send the SHPO a complete copy of their permit application package at the same time it is submitted to the DES Wetlands Bureau. If the applicant chooses this method, the applicant must include a statement that they have provided their application package to the SHPO.

The SHPO will review the information and determine whether additional study may be warranted to learn more about the historic resources of the site. The type of study that is recommended may require the services of a <u>professional historical consultant</u> and/or <u>archaeologist</u>.

Applicants for dam removal projects with the potential to impact sites that are found eligible for listing to the National Register of Historic Places, or with the potential to impact sites that are already listed on the National Register, are required to consult with members of the public to determine project alternatives to avoid, minimize or mitigate these impacts. This public information and consultative phase leads to the development of a Memorandum of Agreement among the relevant federal and state agencies, describing the roles each will play in avoiding, minimizing or mitigating the project's impacts to historic resources.

This process has been successfully completed for dam removal projects in New Hampshire, and early coordination is the key for a successful and timely process.

3. Effects to Infrastructure

Throughout time public infrastructure has been constructed in and around rivers. Bridge piers, retaining walls, water and sewer mains, dry hydrants, storm sewer outfalls and telecommunication cables are just a few of the things that have been placed in and around rivers. The infrastructure may currently be providing a service, such as bridge piers or a dry hydrant. Or, it could have been long since abandoned and forgotten, such as old water mains or other pipes.

Infrastructure located both upstream and downstream of the dam can be affected by the dam's removal in a variety of ways. Effects to infrastructure tend to be most associated with the resulting decrease in the water surface elevation behind the dam and/or the change in sediment transport and streambed scour due to the restoration of a free-flowing river. These effects may require a range of alternatives from allowing natural processes post-dam removal, to relocating or removing the infrastructure, to deciding not to remove the dam but to install a fish passage device instead. This emphasizes the importance of early investigation of nearby infrastructure and designing the specific project with the infrastructure in mind.

Early in the planning process, projects should determine whether there is any infrastructure in the area that could be affected by the dam's removal. Critical visual investigations of the area in the vicinity of the dam and the length of impoundment, both upstream and downstream of the dam are recommended, as well as talking with the local public works department for information about infrastructure that may not be apparent.

Methods of preventing effects on, or stabilizing infrastructure for, post-dam removal conditions will vary with the project and the site. Any proposed methods to address infrastructure must be described in full detail in the permit application package.

Additional Items of Note

A few additional issues to keep in mind when planning a dam removal project:

- 1. **Minimization and Avoidance** The basis for permit review by the DES Wetlands Bureau is minimization and avoidance. It is understood that some impacts are necessary and may need to be permitted. All dam removal projects, however, should be designed to minimize short-term impacts to the environment and maximize long-term benefits of ecological restoration.
- 2. **Timing of Project** The DES Wetlands Bureau typically requires that dam removal projects be conducted during annual low flow conditions (July, August, September). In the coastal zone, however, it may be preferable to conduct the project at a different time of year. This will be largely dependent on the New Hampshire Fish and Game Department's recommendation for avoiding and minimizing impacts to particular species of fish and wildlife.
- 3. **Public Participation** During recent years, state and federal agencies have provided public informational sessions about dam removal projects regardless of whether they are required by rule or law. The agencies have chosen to hold these meetings due to the fact that dam removal and river restoration projects are a relatively recent occurrence in New Hampshire. These meetings have served as valuable opportunities for the public to become informed about projects and have provided important feedback to the relevant agencies.

There are situations, however, where public meetings or hearings are required and therefore, must be considered when planning a dam removal project. The following selected list provides examples of

public participation requirements:

- o Early in the planning process and after information has been compiled regarding historic resources: Federal agencies are required to inform the public of a project's potential effects to historic resources, per the <u>National Historic Preservation Act</u>. The project's lead federal agency shall provide the public an opportunity to express views on resolving adverse effects of the project [per 36 CFR §800.6(4)].
- o During the DES permit review process:
 - Any project that takes place in, or contiguous to, a <u>designated prime wetland</u> will require a public hearing, held by the DES Wetlands Bureau, prior to approval of any permit [per Rule Env-Wt 703.03].
 - Any project that would result in significant environmental impact, as defined by the DES Wetlands Bureau, requires a public hearing [per Rule Env-Wt 202.01].
- After the project has been permitted:
 - Dam owners cannot lower the level of an impoundment equal to or greater than 10 surface acres without first notifying the local governing body at least 30 days prior to lowering the impoundment. The local government must provide for a public informational meeting within 15 days of receiving notice from the dam owner [per RSA 482:13].
 - Dam owners must contact the New Hampshire Fish and Game Department in writing
 at least two weeks prior to lowering the level of an impoundment so that the
 Department can remove fish from the affected waters, if necessary [per RSA 211:11].

Step Three: Prepare Permit Application Package

Estimated time to complete: One month

The data for the project has been collected and the conceptual designs have been developed. With this information as the foundation of the project, the preparation of the permit application package is typically fairly straightforward.

Applicants will find there is a small amount of repetition in the cover sheets for the two required forms. This is due to the overlapping jurisdictions of the DES Wetlands and Dam Bureaus for dam removal projects.

COMPLETING THE APPLICATION FORMS

Dam Owner Information

Provide the name, mailing address and daytime phone number of the dam owner. When a permit is issued, the owner will receive the permit. The mailing address and phone number should be appropriate for the duration of the permitting process. If the address or phone number is used seasonally, please provide a permanent phone number and/or second address. If the address or phone number changes during the permitting process, please contact the Wetlands Bureau with updated information.

Applicant Information, if different than dam owner

If the owner wishes to designate an agent to act on his or her behalf, that person should be indicated as the applicant on the application, and their contact information should be provided. A written and signed statement from the dam owner must also be attached to the application indicating the owner's wish that another person be considered their authorized agent for the duration of the project. The applicant/authorized agent will be considered the primary contact for the project.

Location of Dam

Provide the tax map number and lot number where the dam is located. This information is available at the local government office(s). Provide the five-digit State Dam Identification number, if known (e.g., 144.02, 067.09). For assistance in determining this identification number, contact the DES Dam Bureau at (603) 271-3406 and tell them the location of the structure. Provide the name of the city or town in which the dam structure is located, and the name of the river or waterbody in which the dam is located. Indicate "unnamed" if the waterbody is not named. If the dam is located on a tributary to a named river or stream, indicate "as tributary to" the name of the larger body of water.

Description of Dam

Provide the dam's hazard classification, as determined by the Dam Bureau (i.e., high hazard, significant hazard, low hazard, non-menace). Indicate the current use of the dam, if one exists (e.g., recreational, hydropower, milling, water supply). Provide the length of the dam and the structural height of the dam. Indicate a basic description of the dam's construction type (e.g., timber, concrete, earthen, masonry). Provide an estimate of the surface area of the impoundment in acres. If you are unsure about any of these questions, simply contact the <u>DES Dam Bureau</u>, they probably have a file on the dam.

Person(s) Proposing to Perform the Work

Provide the name, mailing address and daytime phone number of the engineering consultant or contractor that will be performing or supervising the actual removal of the dam.

Explanation of the need for the proposed project and why the approach has less environmental impact on the DES Wetlands Bureau's jurisdiction than other reasonable alternatives

This question (#5 on the *Standard Dredge and Fill Application*) requires the applicant to illustrate or demonstrate why the proposed dam removal is the least impacting alternative by stating how the reason or need for the project (e.g., dam safety, public safety, ecological restoration) is the least impacting alternative. The response must also state how wetland impacts have been avoided or minimized wherever possible. It may be necessary to attach an additional sheet to the application to provide a more detailed response. For both minor and major projects, include a discussion of the analysis of alternatives done for the project.

Some brief examples of statements that illustrate this concept are offered in the table below:

Purpose or Need for Project	Least Impacting Alternative	Avoidance and Minimization
To eliminate the possibility of	Dam requires significant	Minimize impacts by doing
a dam failure.	repair to meet safety	removal under low flow conditions
	requirements, and would	if possible, given dam safety
	necessitate long-term	concerns. Water control and
	maintenance resulting	turbidity control may be necessary.
	repeated impacts to the	
	environment.	
To eliminate a navigational or	Dam needs full reconstruction	Minimize impacts by removing
recreational hazard.	to meet safety requirements,	dam under low-flow conditions.
	and would necessitate long-	Minimize direct impacts to
	term maintenance with	streambed by removing most of
	repeated impacts to the	dam from stream bank.
	environment.	
To improve fish passage and	Existing fish ladder is not	Minimize impacts by removing
restore a 5-mile portion of a	effective. Further	dam during non-spawning or
coastal river.	improvements to ladder	migratory periods. Remove dam to
	would perpetuate long-term	streambed elevation so future work
	maintenance of both the dam	at site is unnecessary.
	and the ladder causing	
	repeated impacts to the	
	environment.	

Desired Starting Date and Estimated Completion Date

Allow sufficient time for permit review by the local conservation commission and the DES Wetlands and Dam bureaus. Keep in mind the need to complete the historic resources review and associated process, if applicable. Also remember that in-stream projects may need to be conducted under low flow conditions (typically July – October on inland streams and under conditions as determined by N.H. Fish and Game Department Marine Division on coastal streams).

Determining Area and/or Linear Impact of Proposed Work

This section guides the applicant in filling out Section #9 on the *Standard Dredge and Fill Application*. It is necessary to provide an estimate of the total area of impacts to DES Wetlands Bureau jurisdictional areas in order to conduct the proposed project.

Note that the area of impact does <u>not</u> include the surface area or number of linear feet of stream banks that are exposed if water levels decrease due to the dam's removal. However, they must be included if any work will be done on the exposed stream banks, such as plantings or stream bank stabilization.

When calculating area of impact, use dimensions in appropriate units (see chart below).

Calculating Area of Impact (Differentiate Between Permanent and Temporary)		
Type of impact	Unit(s) of measure	
Dredging or removal of material	Cubic yards and square feet	
Filling	Cubic yards and square feet	
Direct impacts along the course of	Length of impact to one bank + length of impact to second bank +	
a perennial stream	length of impact to thread of channel = total linear feet of impact	
Direct impacts to shoreline of	Area of impact to bank in linear feet and square feet	
impoundment		

The following information must be provided in Section #9 of the Standard Dredge and Fill Application:

- **Estimated area to be dredged** includes elements of the project that require digging, excavating or otherwise disturbing the current contour or integrity of the stream bank or streambed. This typically includes:
 - o The footprint of the dam structure that is to be removed.
 - o Portions of the stream banks or stream bed that will be impacted by the installation and removal of access ramps, roads, paths for equipment and any water control device that may be installed (e.g., cofferdam).
- The **volume of material to be removed from public waters** typically includes:
 - The volume of sediment that will be removed from public waters as part of the dam removal process.
 - o The volume of the dam itself.
 - O The volume of materials that need to temporarily placed in public waters during the project (e.g., cofferdams) and then removed. Differentiate this amount on the form as "temporary."
- Is proposed disposal site in wetlands (yes/no). It is encouraged to seek disposal sites outside of wetland jurisdiction. Disposal of dam materials in wetlands jurisdiction may require additional permits or approvals, depending upon the type of material and the water quality of the potentially affected waterbody.
- Estimated area to be filled including:
 - The permanent deposit of materials in or on the stream bank, streambed, or other areas under the DES Wetlands Bureau jurisdiction. This includes rock, soil, gravel, sand or other such material that is deposited by human activity during the project, and will not be removed during the course of the project.
 - The temporary placement of materials for the length of the project (e.g. cofferdam, turbidity control devices). Differentiate this amount on the form as "temporary."
- Estimated total area (in DES Wetlands Bureau jurisdiction) of all proposed work. Simply add the estimated area to be dredged and the estimated area to be filled. If there is any upstream infrastructure that will need to be stabilized during the project, include it in the total area of the proposed work.
- Estimated excavation and/or filling within the upland portion of the Tidal Buffer Zone. The tidal buffer zone includes the area extending landward 100 feet from the highest observable tide line. This area may contain wetlands, transitional areas, or natural and developed upland areas.
- If a channel is to be constructed, or a culvert or a bridge is to be installed, give the distance the flow of water is to be impacted. Dam removal projects rarely involve the construction of a permanent channel, culvert or bridge. If the proposed project does, provide the required information.

- If the project involves shoreline, indicate the average length of shoreline frontage. This is calculated as the average of two distances: the actual navigable shoreline frontage and a straight line drawn between property lines, both of which are measured at the normal high water line.
- If dock or similar structure. This does not apply to dam removal projects.
- If wall, rip-rap, or similar project, indicate the proposed shoreline impact. This does not apply to dam removal projects.

Description of Proposed Project and Supporting Materials

In order for the Wetlands and Dam Bureaus to assess the potential effects of the project, the applicant must provide a detailed description of the proposed method of dam removal, including:

- A sequential list of the steps in the construction project. This document should describe the entire project, beginning with how the site will be accessed (e.g., Does an access road exist? Does one need to be constructed?) and ending with cleaning up the site after the project is completed. Methods to minimize impact to the river and streambank and methods for controlling in-stream turbidity throughout the course of the project should be addressed.
- Detailed and dimensioned plans of the site, as it currently appears, showing the design of the proposed dam removal project and the restoration of the site after the removal is completed. A cross section of the dam structure to be removed must be shown.

Larger format plans (typically 24 inch x 36 inch) are often required to provide clear, detailed and legible plans for larger projects. However, a duplicate set of small format plans should also be submitted to the DES Wetlands Bureau for the U.S. Army Corps of Engineers' review of the project. The small format plans must be on 8½ inch x 11 inch paper with a ¾ inch margin at the top of the page. A one-page schematic of the entire project may have numbered references to additional detail sheets.

Project plans must be properly formatted and legible, must be dark enough to allow for clear reproduction, must show both existing and proposed conditions and be drawn to scale, or with all dimensions clearly labeled.

To facilitate a timely review of the project, applicants should be sure that site plans include the following:

- o Scale or dimensions used on the plan.
- o North-pointing arrow indicating orientation.
- An overview of the property and proposed impact areas in relation to property lines.
 Provide footprints (size, location, configuration) of all existing and proposed structures on the affected property.
- o Boundary or delineated edge of all surface waters and wetlands.
- o Existing and proposed topography, if changes in grade are proposed.
- Shaded or hatched area(s) to indicate the areas of temporary and permanent impacts to wetlands, surface waters or their banks, or area within 100 feet of the highest observable tide line.
- o Labeling of each proposed impact area with the size (square footage) of impact indicated (e.g., Impact Area #1, Impact Area #2). Do not use color shading. Instead, use graphic symbols such as dot shading or cross-hatching to indicate impact areas.
- O Distance from existing features and proposed work to abutting property lines. For waterfront projects, show the distance from the imaginary extension of property lines over surface waters. NOTE: any new construction shall be at least 20 feet from any

- property lines or the imaginary extension over the water, unless written permission, in the form of a notarized letter, is obtained from the affected abutter(s).
- o Type of construction and materials to be used.
- o A narrative construction sequence with relative timing, methods and progression of all work, pre-construction through post-construction.
- o Proposed methods of erosion or siltation control indicated graphically on the plan and in narrative format in the construction sequence.
- o Name of the person who prepared the plans and drawings.
- o A cross sectional drawing of the dam to be removed, indicating the design, materials it is composed of and the type of construction.
- O Description of vertical datum (reference elevation) used on all drawings if elevations are not shown. The National Geodetic Vertical Datum is preferred in non-tidal areas, while mean low water is preferred in tidal waters.
- o Include the name of the person who prepared the plans and drawings on the plan, including that person's signature.
- A description of the method and location for disposal of dam materials. Applicants are
 encouraged to avoid disposing of material in DES Wetlands Bureau jurisdictional areas, where
 possible. Note that these areas may include shorelines, canals, and sluiceways.
- USGS topographic map (1:24,000 or 1:25,000 scale) with the project area clearly marked. An original map is not necessary; a copy is fine. Only the portion of the map showing the project sites needs to be submitted. In the lower right corner, label the map with the name of the quadrangle as shown on the original map. Adequate maps can be purchased at bookstores, hunting stores, camping stores, gas stations, etc. You may be able to photocopy the map you need at a local library, county conservation district office, regional planning commission or local conservation commission.
- Tax map(s) showing the property on which the project will take place. Tax map(s) showing all abutting properties must also be included and labeled to correspond with a list of all abutters including their mailing addresses, tax map and lot numbers. Include all abutters to the property on which the dam removal project will take place. Also, list all abutters to the impounded portion of the waterbody (i.e., abutters that will be affected by the decrease in water surface elevation). Note that abutters do not include landowners with property more than one-quarter mile from the limits of the proposed project, nor those who own property across a public roadway from the project site. Tax maps are available from the local government office. Some counties have information on-line. See the New Hampshire Counties Registry of Deeds for more information. If the proposed project affects properties in more than one town, provide the tax map and property information for each town.

Note: If the project (or access to the project) will require work within 20 feet of an abutter's property line, notarized written permission from that abutting landowner must be included in the application.

• Original, dated photographs (print or digital) securely mounted on 8½" x 11" sheets of paper. The photos should clearly illustrate the project impact area. Label each photo with the date it was taken, what it shows and from what direction or area it was taken. It is helpful to label the photograph locations on the site plan.

Description of Impacts of Proposed Project

The questions in this portion of the *Attachment* are provided as a guide for the applicant to adequately address a number of issues as required by the DES Wetlands Bureau [per Rule Env-Wt 302.04]. This series of questions are worded in a way that helps the applicant provide information specific to a dam removal project. Answering these questions should be a relatively straightforward process if adequate data collection and analysis were incorporated into the design and planning stage of the dam removal project. Please substantiate any answers provided (i.e., why the project as proposed will minimize impacts based upon site-specific information).

Abutter Notification

Under RSA 482-A, the applicant is required to send a letter to all of the project's abutters to notify them that the applicant is applying for a permit from the DES Wetlands Bureau. (Click for an example of such a letter.) The applicant must send the letters to the abutters by certified mail. It is not necessary to get a return receipt. Keep the white postal receipts from the postmaster. Include a copy of the letter that was sent to the abutters, and copies of all of the white postal receipts for the mailed letters with the application materials. These must be included in order for the town or city clerk to sign the application and forward it to DES Wetlands.

Filing Fees

Attach to the original application materials a check or money order made out to the "State of New Hampshire, Treasurer." Write the amount of the fee enclosed in the space provided on the application. The fee must be included with the application package. Fees for proposed work submitted are based on a rate of \$0.10 per square foot of dredge or fill. Multiply the total area (in square feet) of dredge and fill impact by \$0.10. This is the total filing fee. As of July 2003, the minimum application fee is \$100.

Consult with the town clerk for any required municipal fees.

Applicant Signature

The signature of the applicant or their authorized agent certifies that the owner or their agent has reviewed all application materials (including all supporting materials) and that the information being submitted is true and accurate. The signature also certifies that the owner or their agent has properly notified abutters as required by RSA 482-A.

Town or City Clerk Signature

The town or city clerk must sign all 5 copies of the application package. By signing, the clerk certifies that he or she has reviewed the postal receipts from abutter notification and that the original application materials will be mailed to the DES Wetlands Bureau, and additional copies will be distributed to the selectmen, the planning board, the conservation commission (if applicable) and that one copy will be kept at the municipal office for public viewing. The date of the clerk's signature is used to determine the timeframe allowed for conservation commission review or intervention.

Submitting the Application

Most applicants will simply submit 5 copies of the application package to the town or city clerk, as described above. The clerk will then mail the application package to the DES Wetlands Bureau.

If the applicant or the authorized agent is an agency of the state they may submit the application forms, supporting materials and fee directly to the DES Wetlands Bureau without the signature of the Town or city clerk [per RSA 482-A:3]. Four copies of the complete application package must be filed at the same time with the town or city clerk. State agencies can send the application to: Wetlands Bureau, Water Division, New Hampshire Department of Environmental Services, 6 Hazen Drive, PO Box 95, Concord, NH 03302-0095.

PERMIT APPLICATION CHECKLIST

Is the permit application package complete? The DES Wetlands Bureau has the authority to deny incomplete applications [per Rule Env-Wt 501.02(b)]. Confirm that all of the necessary information is included in the permit application materials prior to submitting the application.

Use the	e following checklist to be sure the application is complete:
	Two completed forms:
	1) Standard Dredge and Fill Application
	2) Attachment to the Standard Dredge and Fill Application for Dam Removal Projects
	Complete answers to Description of Impacts of Proposed Project from the <i>Attachment</i>
	application.
	Copy of cover letter to State Historic Preservation Office (SHPO) or statement that a copy of the complete permit application has been sent to the SHPO.
	USGS map with project location indicated.
	Copy of tax map(s) identifying the applicant's property and all abutting properties labeled.
	List of all abutters and their mailing addresses.
	Detailed and dimensioned plans and cross sections signed and dated by their author.
	A duplicate set of the complete project plans for the U.S. Army Corps of Engineers on $8\frac{1}{2}$ x 11 inch paper with a $\frac{3}{4}$ inch margin at the top of the page.
	Sequential list of steps involved in the proposed dam removal project.
	Original photographs of the project impact area on $8\frac{1}{2}$ x 11 inch paper. Date, location and direction of photo views must be indicated on the photo and/or the site plan.
	Copies of certified postal receipts for abutter notification.
	Application fee.
	Signature of applicant.
	Letter from dam owner giving applicant authorized agent status, if applicant is not the dam owner.
	Signature of town or city clerk.
	Five copies of the applications and all attachments.

Step Four: Permit Review and Issuance

Estimated time to complete:

DES has a 75-day period to review complete applications

Permit Review

After receiving the complete application and supporting materials, the DES Wetlands Bureau will provide a copy of the application materials to the DES Dam Bureau. The Wetlands Bureaus has a 75-day review period for complete applications. Either bureau may contact the applicant for additional information during that time. Either bureau may also visit the proposed project during that time.

Public Meeting Requirements

Further public meetings (e.g., informational sessions, hearings) may be required in certain circumstances and therefore, should be considered when planning a dam removal project. The following list provides examples of public participation requirements:

- Dam owners cannot lower the level of an impoundment equal to or greater than 10 surface acres without first notifying the local governing body at least 30 days prior to lowering the impoundment. The local government must provide a public informational meeting within fifteen (15) days of receiving notice from the dam owner [per RSA 482:13].
- Federal agencies are required to inform the public of a project's potential effects to historic resources, per the *National Historic Preservation Act*. The project's lead Federal agency shall provide the public an opportunity to express their views on resolving adverse effects of the project [per 36 CFR §800.6.4]. This must take place prior to the development of the associated Memorandum of Agreement for the project, which is a requirement for obtaining the Army Corps 404 permit.
- Any project that takes place in or contiguous to a <u>designated prime wetland</u> will require a public hearing, held by the DES Wetlands Bureau, prior to approval of any permit [per <u>Rule Env-Wt</u> 703.03].
- Any project that would result in significant environmental impact, as defined by the DES Wetlands Bureau, requires a public hearing [per Rule Env-Wt 202.01].

DES Dam Bureau Approval

The DES Dam Bureau will provide written approval to the applicant for the dam removal project if the bureau determines that 1) the dam will be removed to such an extent that it will no longer require regulation as a dam and, 2) the dam will be removed in a controlled manner that will not directly cause damage downstream of the dam.

DES Wetlands Bureau and U.S. Army Corps of Engineers Approval and Permit Issuance

The DES Wetlands Bureau will provide permit approval to the applicant for the dam removal project if the permit application is complete and the proposal is determined to be a permitable project. There are three types of permit approvals that dam removal projects may receive from the DES Wetlands Bureau. The details of these approvals are described below:

- Minimum Impact Project Permit. If the project qualifies as a minimum impact project, the permit is automatically approved under the <u>Army Corps of Engineers' New Hampshire Statewide Programmatic General Permit (SPGP)</u>. There is no need to wait for a separate approval from the Army Corps to commence the project.
 - o NOTE: The applicant is still responsible for obtaining any necessary local permits.

- Minor Impact Project Permit. If the project is considered a minor impact project, the project will be reviewed by the Army Corps of Engineers for possible approval under the Army Corps New Hampshire State Programmatic General Permit (SPGP). The Army Corps will notify the applicant within 30 days after the DES Wetlands Bureau approval if they will require additional information or an individual federal permit application. If the applicant does not hear from the Army Corps within 30 days, and the project meets the conditions of the SPGP, the project will automatically be approved under the SPGP.
 - NOTE: No work should be done without authorization from the Army Corps unless 30 days have passed after the DES Wetlands Bureau approval, provided that all conditions of the SPGP are met.
 - o NOTE: The applicant is still responsible for obtaining any necessary local permits.
- Major Impact Project Permit. If the project is considered a major impact project, the project will be reviewed by the Army Corps of Engineers for possible approval under the New Hampshire State Programmatic General Permit (SPGP). The Army Corps will notify the applicant within 30 days after the DES Wetlands Bureau approval.
 - o NOTE: No work should be done in DES Wetlands Bureau jurisdictional areas until the applicant is notified by the Army Corps.

General Conditions That Apply to All DES Wetlands Permits

The following conditions are standard conditions that applicants should expect to see included in the DES Wetlands Permit:

- A copy of the permit shall be posted during construction in a prominent location visible to inspecting personnel.
- The permit does not convey a property right, nor authorize any injury to property of others, nor invasion of rights of others.
- The DES Wetlands Bureau shall be notified upon completion of work.
- The permit does not relieve the applicant from the obligation to obtain other local, state or federal permits that may be required.
- Transfer of this permit to a new owner shall require notification to and approval by the DES Wetlands Bureau.
- The permit shall not be extended beyond the stated expiration date.
- The project has been screened for potential impacts to known occurrences of rare species and exemplary natural communities in the immediate area. Since many areas have never been surveyed, or have received only cursory inventories, unidentified sensitive species or communities may be present. The permit does not absolve the permitee from due diligence in regard to state, local or federal laws regarding such communities or species.

Permit Length

Permits issued by the DES Wetlands Bureau have a duration of 5 years.

Permit Transferability

The current dam owner is required to notify both the <u>DES Wetlands Bureau</u> at (603) 271-3503 and the <u>Dam Bureau</u> (603) 271-3406 if the property is sold prior to completion of the permitted project. Notification must include new owner's name and current contact information, including phone number.

Permit Modification

The current dam owner is required to submit a written request to DES Wetlands Bureau describing any changes to the project as originally designed and approved. Upon review, specifications or permit modifications may be required.

Permit Renewal

If the dam removal has not been completed within 5 years and the permitee wishes to conduct the project after the project permit has expired, the permitee is required to submit a written request for a two-year permit extension. This request must be received prior to the expiration of the original permit or a new application will be required.

Discovery of Previously Unknown Historical Resources

If the applicant, during construction of work authorized by the State of New Hampshire and the Army Corps of Engineers, encounters a previously unidentified archaeological or other cultural resource within the area subject to Corps jurisdiction (e.g., river, riverbed, streambank, wetlands) that might be eligible for listing in the National Register of Historic Places, the work shall stop immediately and the applicant shall contact the Army Corps District Engineer at (800) 343-4789 and the State Historic Preservation Office at (603) 271-3483.

Appendix 1

Contact Information for Selected State and Federal Agencies

Federal Agencies

Federal Emergency Management Agency

Region I 442 J.W. Mc Cormack POCH Boston, MA 02109 (617) 223-9540 www.fema.gov/regions/i/index.shtm

National Marine Fisheries Service

NOAA Restoration Center Northeast Region One Blackburn Drive Gloucester, MA 01930 (978) 281-9102 www.nmfs.noaa.gov/habitat/restoration/index.ht ml

National Park Service

National Wild & Scenic Rivers Program Northeast Region U.S. Custom House 200 Chestnut St., Fifth Floor Philadelphia, PA 19106 (215) 597-7013 www.nps.gov/rivers/

Natural Resources Conservation Service

Federal Building 2 Madbury Road Durham, NH 03824-2043 (603) 868-7581 www.nh.nrcs.usda.gov/

U.S. Army Corps of Engineers

New England District, Regulatory Branch 696 Virginia Road Concord, MA 01742-2751 (800) 343-4789 or (978) 318-8335 (978) 318-8303 (fax) www.nae.usace.army.mil

U.S. Environmental Protection Agency

Region 1 1 Congress Street, Suite 1100 Boston, MA 02114-2023 (617) 918-1589 www.epa.gov/region1

U.S. Fish and Wildlife Service

Northeast Region 70 Commercial Street Suite 300 Concord, NH 02813 (603) 223-2541 northeast.fws.gov

State Agencies

N.H. Dept. of Environmental Services Dam Bureau

6 Hazen Drive Concord, NH 03302 (603) 271-3406 (603) 271-7894 (fax) www.des.state.nh.us/dam

N.H. Dept. of Environmental Services Rivers Management and Protection Program

6 Hazen Drive Concord, NH 03302-0095 (603) 271-3503 www.des.state.nh.us/rivers

N.H. Dept. of Environmental Services Wetlands Bureau

6 Hazen Drive Concord, NH 03302 (603) 271-2147 (603) 271-6588 (fax) www.des.state.nh.us/wetlands

New Hampshire Fish and Game Department

2 Hazen Drive Concord, NH 03302-0095 (603) 271-3623 wildlife.state.nh.us

N.H. Department of Resources & Economic Development

Natural Heritage Inventory 172 Pembroke Rd. PO Box 1856 Concord, NH 03302 (603) 271-3623 www.nhdfl.org/formgt/nhiweb/

N.H. Department of Safety

Division of Fire Safety & Emergency Management Office of Emergency Management 10 Hazen Drive Concord, NH 03305 (603) 271-2231 www.nhoem.state.nh.us/

State Historic Preservation Office

N.H. Division of Historical Resources PO Box 2043 19 Pillsbury Street Concord, NH 03301 (603) 271-3483 webster.state.nh.us/nhdhr

Appendix 2

Greenland

New Hampshire Communities with Town-Wide Area Forms for Historical Resources

The following communities have Town-Wide Area Forms completed and on file at the <u>New Hampshire Division of Historical Resources</u>. These area forms can be helpful resources when investigating the history of a dam and associated properties.

Last Updated November 2000

Ashland Lisbon Litchfield Barrington Londonderry Bath Berlin Manchester Meredith **Brentwood** Merrimack **Bristol** Chichester Milan Colebrook Nashua Columbia Newington Concord Newport Dalton Newton

Northumberland Derry Dover Northwood **East Kingston** Nottingham **Pittsburg Epping Epsom Plaistow** Errol Portsmouth Rochester Exeter Gilford Salem Goffstown Seabrook Gorham Shelburne

Hampton Stark

Haverhill Stewartstown
Hudson Stratford
Keene Stratham
Kensington Troy
Landaff Windham

Somersworth